



## Green and Decent Jobs for Poverty Eradication

*Green jobs are not just for high-tech enterprises. Innovative economic and environmental policy reforms, fiscal measures, and green investments can prevent the loss of meaningful employment opportunities in both urban and rural areas; expand and diversify the local job market; and contribute to the transfer of technology and skills necessary for both long-term poverty eradication and sustainability. Nature-based and other green jobs can create prosperity for all while safeguarding the Earth's life support systems and the ecological foundation of the economy.*

One billion people today are migrants, 74% of them internal<sup>1</sup>. Millions of youths migrate to urban areas each month in search of jobs, often joining the urban unemployed, and leaving behind an aging and increasingly poor rural population with limited capital to drive productivity and sustainability in an inclusive manner<sup>2</sup>. Continuing this model is not an option in a world of increasing environmental scarcities, growing economic uncertainty and inequalities, and widespread poverty and inequality.

The International Labour Organization estimates that some 600 million new jobs need to be generated globally over the next 10 years<sup>3</sup>. A failure to **create jobs, which are green and decent** (with regards to income, conditions, rights, and availability of social protection) as well as **meaningful** (in terms of their contribution to sustainable development through economic growth, and poverty reduction), could harm the ever-more fragile economic, ecological, and social stability of many countries.

A **combination of inclusive green economy measures, social policy tools, and clearly targeted investments** could increase the volume, composition and quality of employment while sustaining and strengthening the economy's ecological foundations, and ensuring social protection. Countries at all levels of development are moving towards greener economies. For example, employment in environmental goods and services in the United States in 2010 was 3.1 million (2.4 %) and growing. In Brazil, 2.9 million green jobs (6.6 % of formal employment) were recorded in 2010 in sectors aimed at reducing environmental harm<sup>4</sup>.

### NATURE-BASED EMPLOYMENT

Today, some 2.6 billion people worldwide draw their livelihoods either partially or fully from agriculture, 1.6 billion from forests, 250 million from fisheries<sup>5</sup>, and 200 million from pastoralism<sup>6</sup>. It has been estimated that ecosystem services and other non-marketed goods make up 50-90% of the total livelihoods of poor rural households<sup>7</sup>.

UNEP's 2011 Green Economy Report<sup>8</sup> defines **green agriculture** as farming practices that maintain and increase farm productivity and profitability; ensure the provision of food and ecosystem services; replace negative externalities of agriculture with positive ones; and rebuild ecological resources by reducing pollution and using resources more efficiently. Practices such as crop rotation and diversification, efficient irrigation, and livestock integration have increased farm productivity by 59 to 179%<sup>9</sup>. It is estimated that for every 10% increment in farm yields there has been an associated 7% reduction in poverty in Africa and more than 5% in Asia<sup>10</sup>. Similarly, investment in sustainable pastoralism (e.g. mobility corridors, mobile services) can result in 2-10 times higher productivity<sup>11</sup>, lower GHG emissions per kg of meat produced, and stronger resilience to climate variability than intensive livestock production. A diversified and sustainable agriculture means protection of existing jobs, which prevents accelerated rural to urban migration and enhances rural employment opportunities in processing, marketing, and services. Investment in green agriculture could create 47 million additional jobs in the next 40 years relative to a business-as-usual scenario.

Greening of the **marine fisheries sector** creates jobs. In 2010, 119 million workers were employed in the fishing industry – 91% as small scale producers<sup>13</sup>, almost half of which were women. Such small scale fisheries are often less damaging to natural resources than semi-industrial or industrial fishing activities. For example, it is estimated that in 2010 the share of large scale enterprises in global fish catch was 53%, however, their share in the discarded or wasted fish catch was 87%, amounting to 15 million tons of fish<sup>14</sup>. A growing number of artisanal fisheries, like those in Senegal, have management committees to regulate and enforce fishing practices that are conscious of local fish stocks and use local and indigenous knowledge and economic instruments to promote sustainable and less-wasteful harvesting practices<sup>15</sup>. In addition, the additional employment effects of sustainable small scale fisheries within a community range from jobs in post-harvest processing and shipping to supplying equipment and bait.



With wild-caught fish becoming scarcer, the number of people engaged in **aquaculture** in the last five years has increased by 5.5 % annually compared with only 0.8 % in capture fisheries<sup>16</sup>. But concerns have been raised about negative impacts on the environment, communities, and consumers. There is a need to upscale sustainable aquaculture certification<sup>17</sup> and promote innovations in technologies. For example, the Scottish Salmon Producers Organization has established a Code of Good Conduct on Scottish Finfish Aquaculture that covers inter-alia escaped fish, sea cages, and nutrient discharge<sup>18</sup>.

**Sustainable ecosystem management** not only secures the natural resource base on which the poor depend, but can also provide significant employment opportunities. For example, a stimulus package for **sustainable forest management** could create an additional 10 to 16 million jobs globally – at an estimated cost of US\$ 36 billion<sup>19</sup>. Non-timber forest products such as medicinal and edible plants can generate about 4 million person-years of employment annually, along with US\$ 14 billion in international trade and income for subsistent households<sup>20</sup>. Furthermore, bringing local communities equitably into the growing “**green**” **travel and tourist industry** can diversify livelihood options while achieving the conservation of biodiversity. Public work programmes that guarantee paid work for the restoration of natural capital can provide the necessary stimulus to protect the environment while transitioning people out of poverty. Over a million new jobs have been created through China's forestry programmes in this way<sup>21</sup>.

## GREEN AND DECENT JOBS IN THE SERVICE SECTOR

Jobs in the **recycling chain** often provide a source of income for workers with low levels of education, no marketable skills, and limited access to productive assets. In Brazil, China and the United States, the waste sector employs 12 million people, most of them extremely poor<sup>22</sup>. The formalization of this sector via social policy measures and investments in green technology will ensure safer working conditions and open up opportunities to develop new skills and diversify future employment options. At the same time, recycling minimizes the need for raw-material extraction and has considerable energy savings.

Innovation of institutions, supply chains, and technology is critical to achieve the dual goals of greening the economy and increasing access of the poor to **sustainably-derived basic services**. Low-cost housing, clean energy, safe drinking water, sanitation, and other basic services can be provided by Small and Medium-sized Enterprises (SMEs) through cost-effective, low-carbon, ecologically friendly, and low maintenance technologies. SMEs are important drivers of growth in low income economies and account for up to 90% of all businesses across Sub Saharan Africa<sup>23</sup>. SMEs whose activities are green provide the triple benefits of employment, improvement of local access of basic services, and environmental sustainability. The Global Village Energy Partnership, for example, has created over 3000 local energy-related jobs in Africa and the Caribbean by supporting entrepreneurship related to the deployment of local clean energy technologies<sup>24</sup>.

The **renewable energy sector** employs 5 million people worldwide and continues to show a steady climb<sup>25</sup>. For example, an EU study that simulated the potential employment effects of investing one billion EUR into key green sectors concluded that almost 100,000 jobs could be created in renewable energy, energy efficiency, and sustainable transport sectors<sup>26</sup>. Similarly, in China the green component of the fiscal stimulus that started in 2008 may create some 5.3 million direct and indirect jobs<sup>27</sup>, including 430,000 jobs by 2030 in renewable energy<sup>28</sup> and almost 900,000 jobs relating to solar PVs by 2020<sup>29</sup>. Brazil too could see almost 52,000 jobs related to solar thermal systems by 2018.

Further investment in green and decent jobs are needed because a severe shortage of skills has been evident in some fast growing sectors such as renewable energy and energy efficiency. There is a need for better defining education policies, training teachers, and encouraging public-private partnerships to build skills and capacities. Nations will also need to invest in **re-skilling** their populations to meet several emerging challenges. Technological intensification and “robotization” can affect vulnerable, unskilled and semi-skilled workforces. Globally, 22 million manufacturing jobs were lost between 1995 and 2002 as industrial output increased by 30%<sup>30</sup>. Programmes should aim to retrain the poor towards green and decent jobs. Climate change may also force re-skilling. For example, more than half of the world's population resides in low-lying coastal zones under threat from sea level rise, which could lead to more migration and the need to develop new livelihoods<sup>31</sup>. Skills in starting local enterprises and establishing new trade and customer networks in green jobs can maximize the benefits for the poor<sup>32</sup>.

References can be found at: <http://www.unep.org/post2015>

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